

ABSTRACT

The present invention provides a magnetic sensor with a simple configuration which detects a magnetic field strength of both polarities and which consumes a small amount of power. The magnetic field sensor of the present invention comprises a first switch part which inputs a signal outputted from a magnetoelectric element which outputs a signal corresponding to an applied magnetic field, and which outputs a signal, switching so that a polarity during a first period and a fourth period and a polarity during a second period and a third period are mutually opposite; an amplifier which amplifies an output signal of the first switch part and outputs a signal to its output terminal pair; a memory element, both ends of which are connected to the output terminal pair of the amplifier, and which holds a voltage outputted from the amplifier; a second switch part which is inserted and makes a connection between one of the output terminal and one terminal of the memory element, and which closes during the first period and the third period and opens during the second period and the fourth period; and a switch output terminal which outputs an output signal of a first polarity of the second switch part during the second period, and which outputs an output signal of a second polarity of

the second switch part during the fourth period.